

CLAIMS:

What is claimed is:

1. A lockable motor assembly for use in a well bore comprising:
 - a stator;
 - a rotor rotatably mounted within said stator; and
 - a selectively removable flow restriction means.
2. The lockable motor assembly of claim 1 further comprising a fluid passageway therethrough.
3. The lockable motor assembly of claim 2 wherein said fluid passageway extends through said rotor.
4. The lockable motor assembly of claim 2 wherein said flow restriction means is in fluid communication with said fluid passageway.
5. The lockable motor assembly of claim 2 further comprising a nozzle disposed within said fluid passageway.
6. The lockable motor assembly of claim 4 wherein said flow restriction means allows a fluid flow rate therethrough sufficient to operate at least one downstream device without rotating said rotor.
7. The lockable motor of claim 4 further comprising a selectively releasable holding means for preventing rotation of said rotor with respect to said stator.
8. The lockable motor assembly of claim 7 wherein said flow restriction means prevents release of said holding means when a fluid flows through said fluid passageway.

9. The lockable motor assembly of claim 7 wherein said flow restriction means allows a fluid flow rate therethrough sufficient to operate at least one downstream device without releasing said holding means.
10. The lockable motor assembly of claim 7 wherein said holding means is selectively released by a predetermined differential pressure.
11. The lockable motor assembly of claim 1 wherein said flow restriction means is selectively removed by a mechanical force.
12. The lockable motor assembly of claim 1 wherein said flow restriction means comprises a nozzle, a tube, an orifice, a screen, a valve or a combination thereof.
13. The lockable motor assembly of claim 1 wherein said flow restriction means substantially balances hydraulic pressure above and below said stator.
14. The lockable motor assembly of claim 1 further comprising a drive shaft disposed between said rotor and a device to be driven by said lockable motor assembly.
15. The lockable motor of claim 1 further comprising a selectively releasable holding means for preventing rotation of said rotor with respect to said stator.
16. The lockable motor assembly of claim 15 wherein said holding means is selectively released by a mechanical force.
17. The lockable motor assembly of claim 15 wherein said holding means is selectively released by a predetermined differential pressure.
18. The lockable motor assembly of claim 15 wherein said holding means comprises a shear member.

19. The lockable motor assembly of claim 15 further comprising a slot to allow removal of a portion of said holding means after release.

20. A system for use in a well bore comprising:
a locked motor having a fluid passageway therethrough; said motor being selectively unlockable; and
a selectively removable flow restriction means in fluid communication with said fluid passageway.
21. The system of claim 20 wherein said flow restriction means prevents said locked motor from unlocking when a fluid flows through said fluid passageway.
22. The system of claim 20 wherein said locked motor is selectively unlockable after said flow restriction means is removed.
23. The system of claim 20 wherein said locked motor is selectively unlocked by flowing a fluid through said fluid passageway after said flow restriction means is removed.
24. The system of claim 20 wherein said locked motor is selectively unlocked by a mechanical force.
25. The system of claim 20 wherein said flow restriction means is selectively removed by a mechanical force.
26. The system of claim 20 wherein said flow restriction means allows a fluid flow rate therethrough sufficient to operate at least one downstream device.
27. The system of claim 26 wherein said downstream device is a hydraulically settable anchor or packer.
28. The system of claim 20 wherein said restriction means comprises a nozzle, a tube, an orifice, a screen, a valve or a combination thereof.

29. The system of claim 20 wherein said motor is a PDM motor, a vane type motor, or a turbine motor.
30. The system of claim 20 wherein said motor has directional drilling capability.
31. The system of claim 20 further comprising a cutting tool operatively connected to said motor.
32. The system of claim 31 wherein said cutting tool comprises a PDC drill bit.
33. The system of claim 31 wherein said cutting tool comprises a drill bit capable of milling through a casing and drilling into a formation.
34. The system of claim 31 further comprising a nozzle disposed within said fluid passageway.

35. A system for drilling a lateral well bore from a main well bore comprising:
a locked downhole motor having a fluid passageway therethrough; said motor being selectively unlockable;
a flow restriction means in fluid communication with said fluid passageway; said flow restriction means being selectively removable;
a cutting tool operatively connected to said motor;
a whipstock releasably connected to said cutting tool; and
an anchor coupled to said whipstock.
36. The system of claim 35 wherein said flow restriction means prevents said downhole motor from unlocking when a fluid flows through said fluid passageway.
37. The system of claim 35 wherein said flow restriction means allows a fluid flow rate therethrough sufficient to set said anchor without unlocking said motor.
38. The system of claim 35 wherein said motor is a PDM motor, a vane-type motor, or a turbine motor.
39. The system of claim 35 wherein said motor has directional drilling capability.
40. The system of claim 35 wherein said cutting tool comprises a PDC drill bit.
41. The system of claim 35 wherein said cutting tool comprises a drill bit capable of milling through a casing in said main well bore and drilling said lateral well bore.
42. The system of claim 35 wherein said locked motor, said flow restriction means, said cutting tool, said whipstock, and said anchor may be run into said main well bore in one trip.
43. The system of claim 35 wherein said flow restriction means is disposed downstream of said motor.

44. The system of claim 35 wherein said flow restriction means is disposed within a fitting connected to said whipstock.

45. A method for drilling a lateral well bore from a main well bore comprising:
running an assembly including an anchor, a whipstock, a cutting tool, a locked motor, and a flow restriction means into the main well bore;
orienting the whipstock while the motor is locked;
setting the anchor while the motor is locked;
selectively removing the flow restriction means;
selectively unlocking the motor; and
operating the motor to rotate the cutting tool to cut a window through a casing in the main well bore.
46. The method of claim 45 further comprising continuing to drill the lateral well bore with the cutting tool.
47. The method of claim 45 further comprising directionally drilling the lateral well bore with the cutting tool.
48. The method of claim 45 further comprising flowing a fluid through the motor while setting the anchor.
49. The method of claim 45 wherein selectively unlocking the motor comprises selectively releasing a holding means.
50. The method of claim 49 wherein selectively releasing the holding means comprises increasing a differential pressure within the motor to a predetermined value.
51. The method of claim 49 wherein selectively releasing the holding means comprises applying a mechanical force to the motor.

52. The method of claim 45 wherein running the assembly, orienting the whipstock, setting the anchor, selectively removing the flow restriction means, selectively unlocking the motor, and operating the motor to rotate the cutting tool to cut the window occurs in a single trip.

53. The method of claim 46 wherein running the assembly, orienting the whipstock, setting the anchor, selectively removing the flow restriction means, selectively unlocking the motor, operating the motor to rotate the cutting tool to cut the window, and drilling the lateral well bore occurs in a single trip.

54. The method of claim 47 wherein running the assembly, orienting the whipstock, setting the anchor, selectively removing the flow restriction means, selectively unlocking the motor, operating the motor to rotate the cutting tool to cut the window, and directionally drilling the lateral well bore occurs in a single trip.

55. A method of drilling a window through a casing in a well bore extending into a formation comprising:

running an anchor, a whipstock, a motor, a flow restriction means, and a cutting tool into the well bore;

orienting the whipstock;

flowing a fluid through the motor and the flow restriction means to create a first differential pressure sufficient to set the anchor without rotating the motor;

selectively removing the flow restriction means; and

flowing a fluid through the motor to create a second differential pressure sufficient to actuate the motor to rotate the cutting tool and cut the window.

56. The method of claim 55 further comprising continuing to drill a lateral well bore into the formation with the cutting tool.

57. The method of claim 55 further comprising directionally drilling a lateral well bore into the formation with the cutting tool.

58. The method of claim 55 wherein the motor is locked at the first differential pressure and unlocked at the second differential pressure.

59. The method of claim 58 wherein the motor is selectively unlockable after the flow restriction means is removed.

60. A method of using a downhole motor within a well bore comprising:
running the downhole motor and a flow restriction means into the well bore;
flowing a fluid through the motor and the flow restriction means to create a first differential pressure sufficient to operate a downstream device without rotating the motor;
selectively removing the flow restriction means; and
flowing a fluid through the motor to create a second differential pressure sufficient to operate the motor.
61. The method of claim 60 wherein the motor is locked at the first differential pressure and unlocked at the second differential pressure.
62. The method of claim 61 wherein the motor is selectively unlockable after the flow restriction means is removed.
63. The method of claim 61 wherein the motor is unlocked by releasing a holding means.
64. The method of claim 61 further comprising flowing a fluid through the motor to create a third differential pressure sufficient to unlock the motor.
65. The method of claim 61 further comprising applying a mechanical force to the motor sufficient to unlock the motor.